Fig. 1

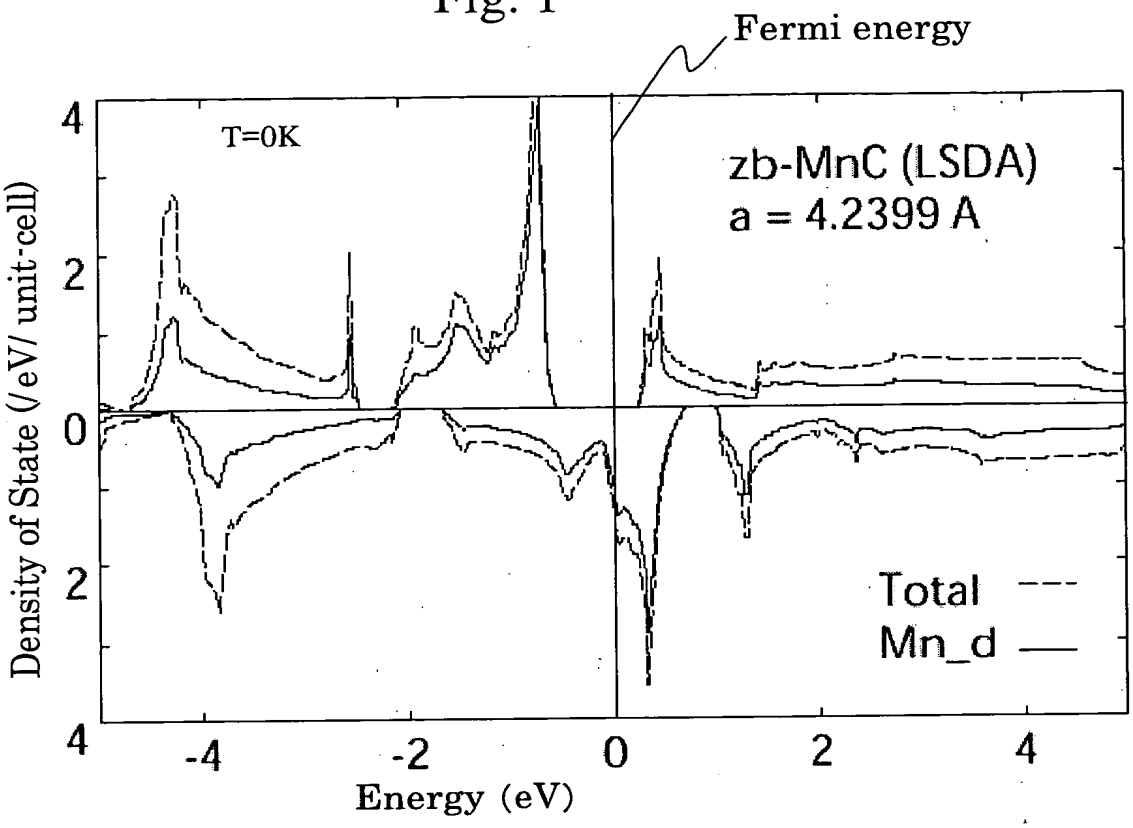

Fig. 2

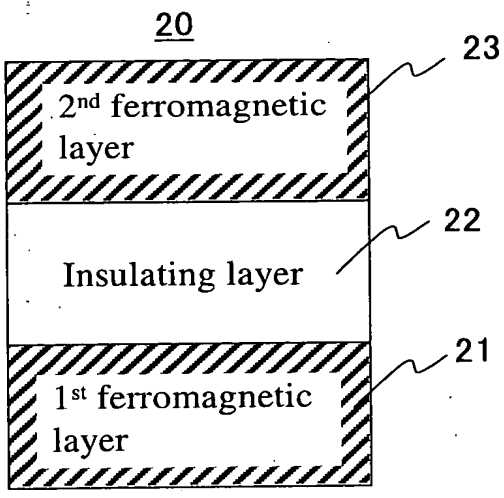

Fig. 3

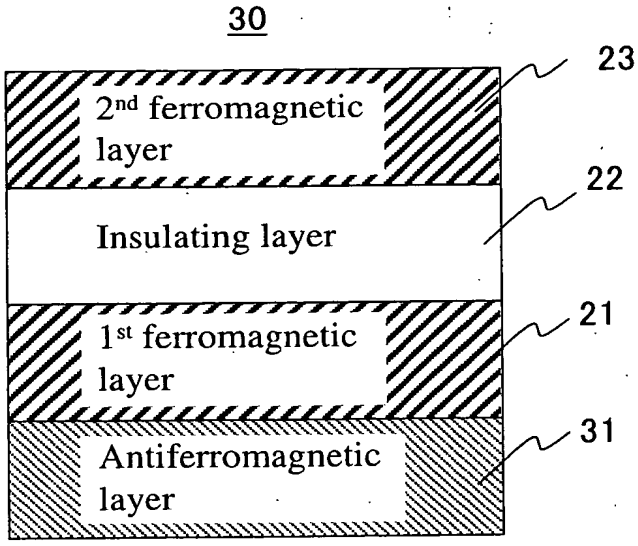

Fig. 4

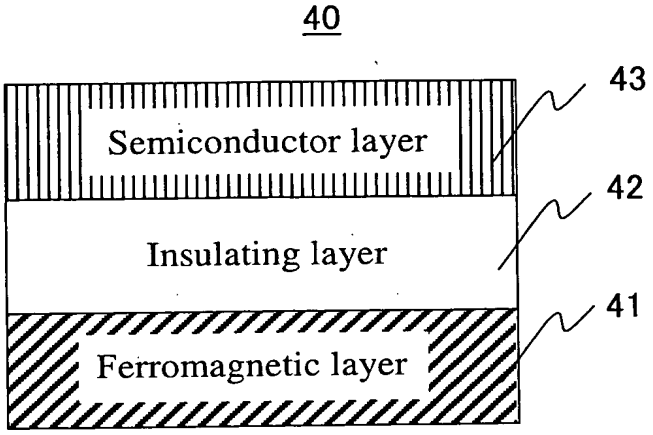

Fig. 5

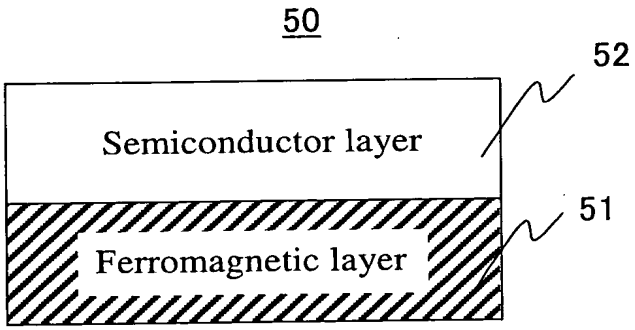

Fig. 6

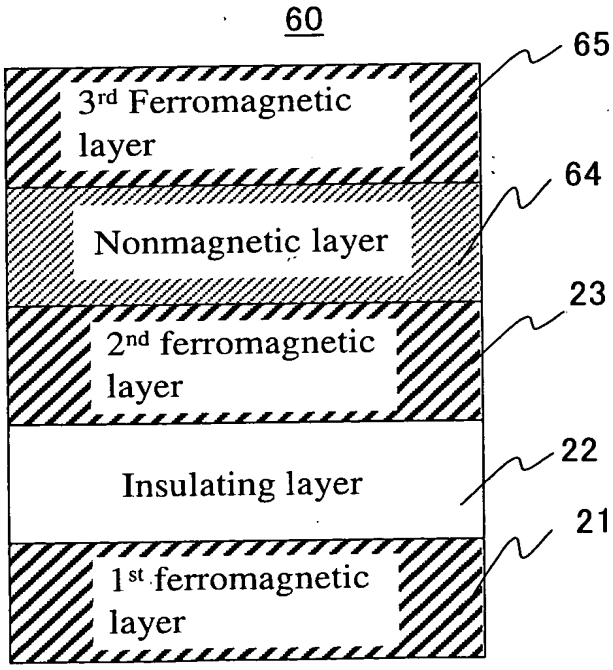

Fig. 7

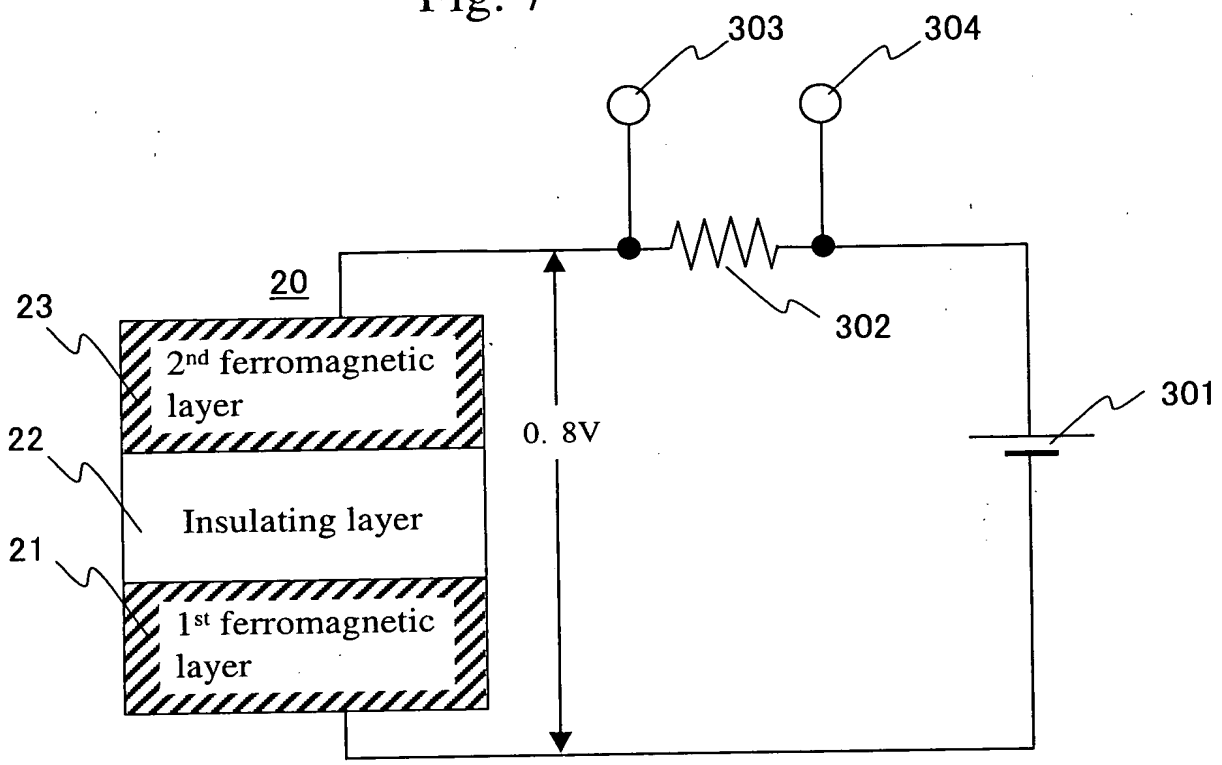
303
304
302
301
20
23
2nd ferromagnetic layer
22
Insulating layer
21
1st ferromagnetic layer
0. 8V

Fig. 8

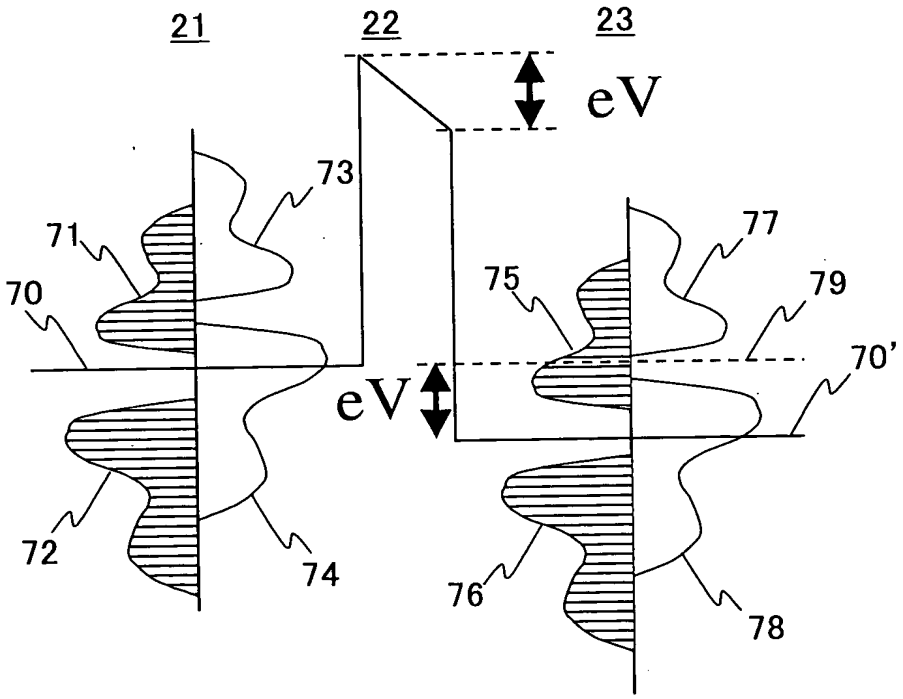
21
22
23
eV
73
71
70
77
75
79
70'
eV
72
74
76
78

Fig. 9

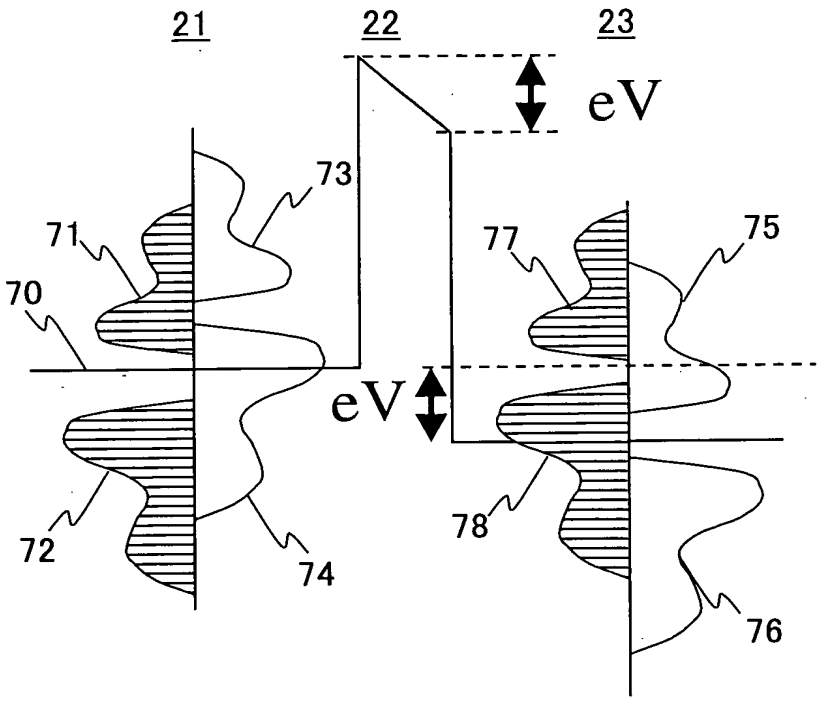
21
22
23
eV
73
71
70
77
75
eV
72
74
78
76

Fig. 10

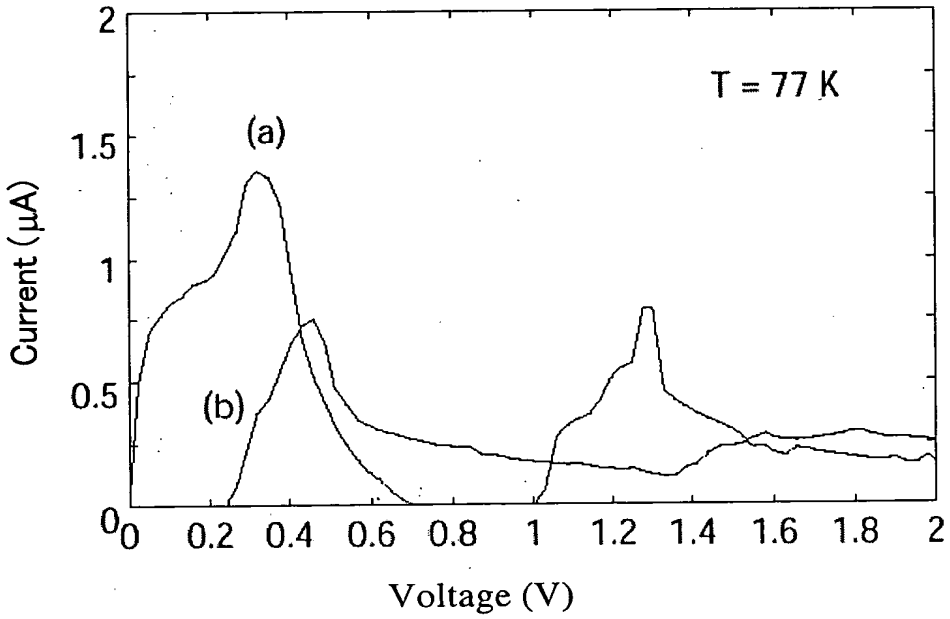
T = 77 K
(a)
(b)
Current (μA)
Voltage (V)
0
0.5
1
1.5
2
0.2
0.4
0.6
0.8
1.2
1.4
1.6
1.8

Fig. 11

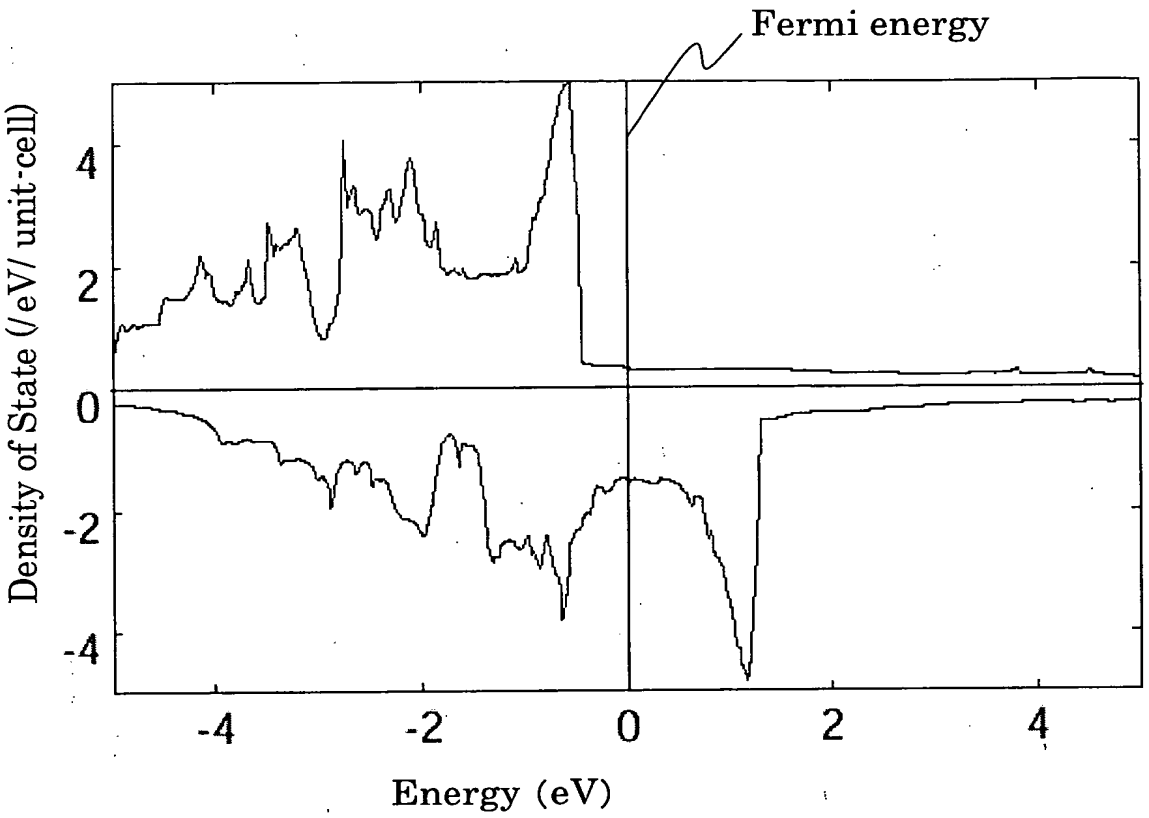
Fermi energy
Density of State (/eV/ unit-cell)
4
2
0
-2
-4
-4
-2
0
2
4
Energy (eV)

Fig. 12

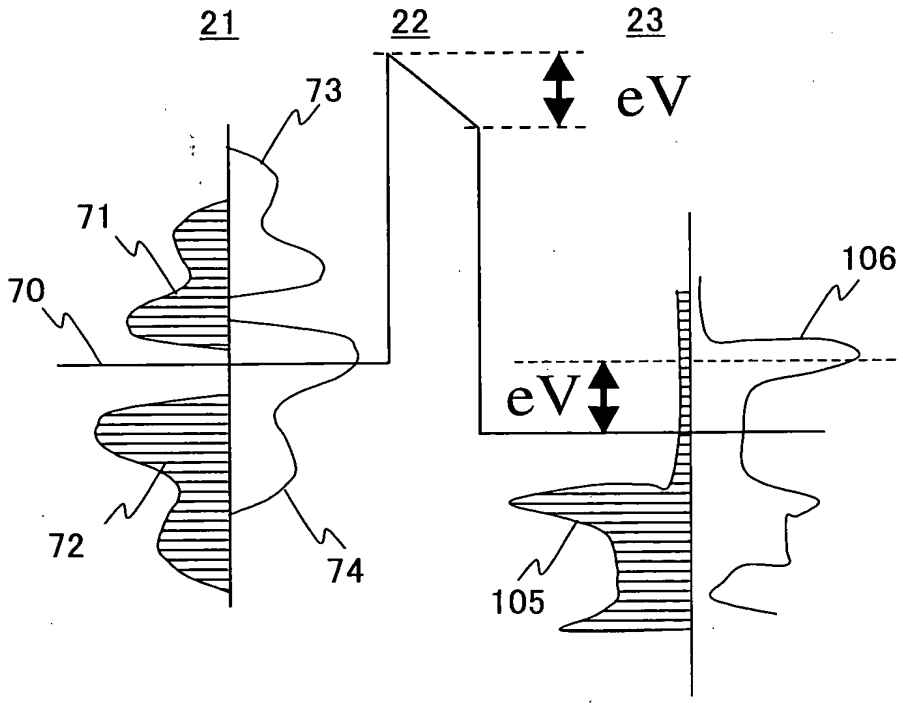
21
22
23
73
eV
71
70
106
eV
72
74
105

Fig. 13

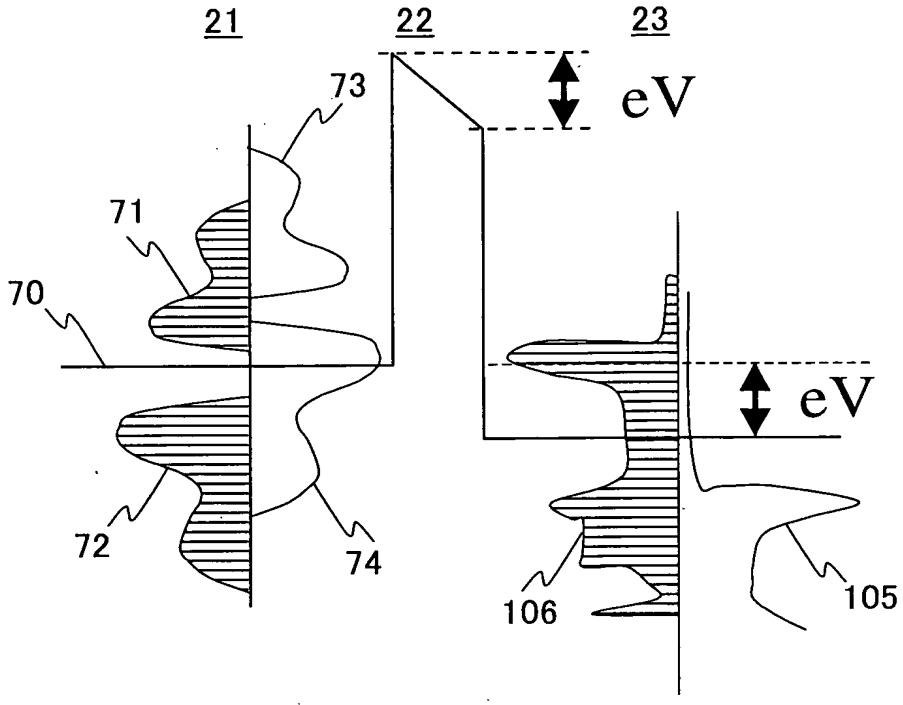
21
22
23
73
eV
71
70
eV
72
74
106
105

Fig. 14

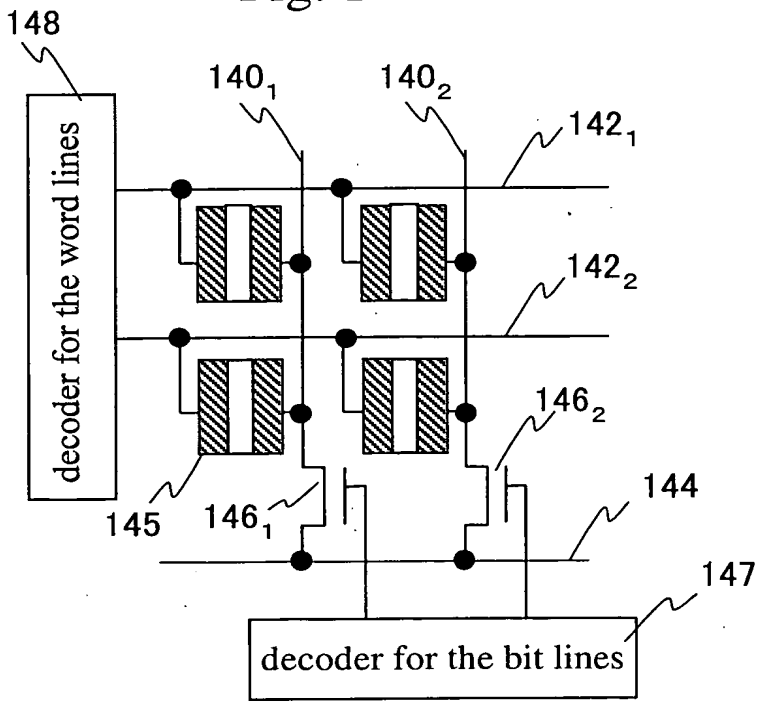
148
decoder for the word lines
140$_1$
140$_2$
142$_1$
142$_2$
146$_2$
144
145
146$_1$
147
decoder for the bit lines

Fig. 15

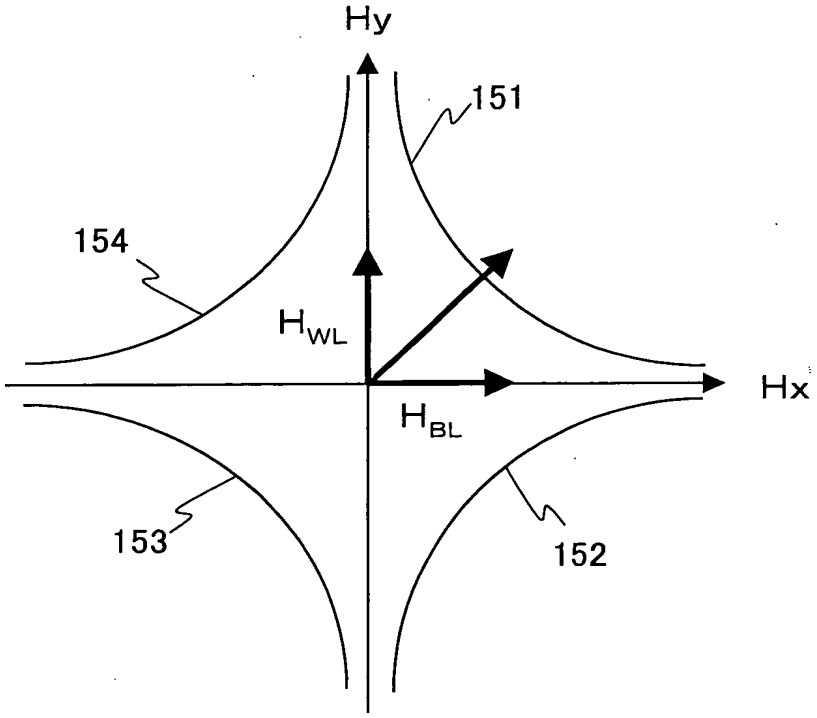

Fig. 16

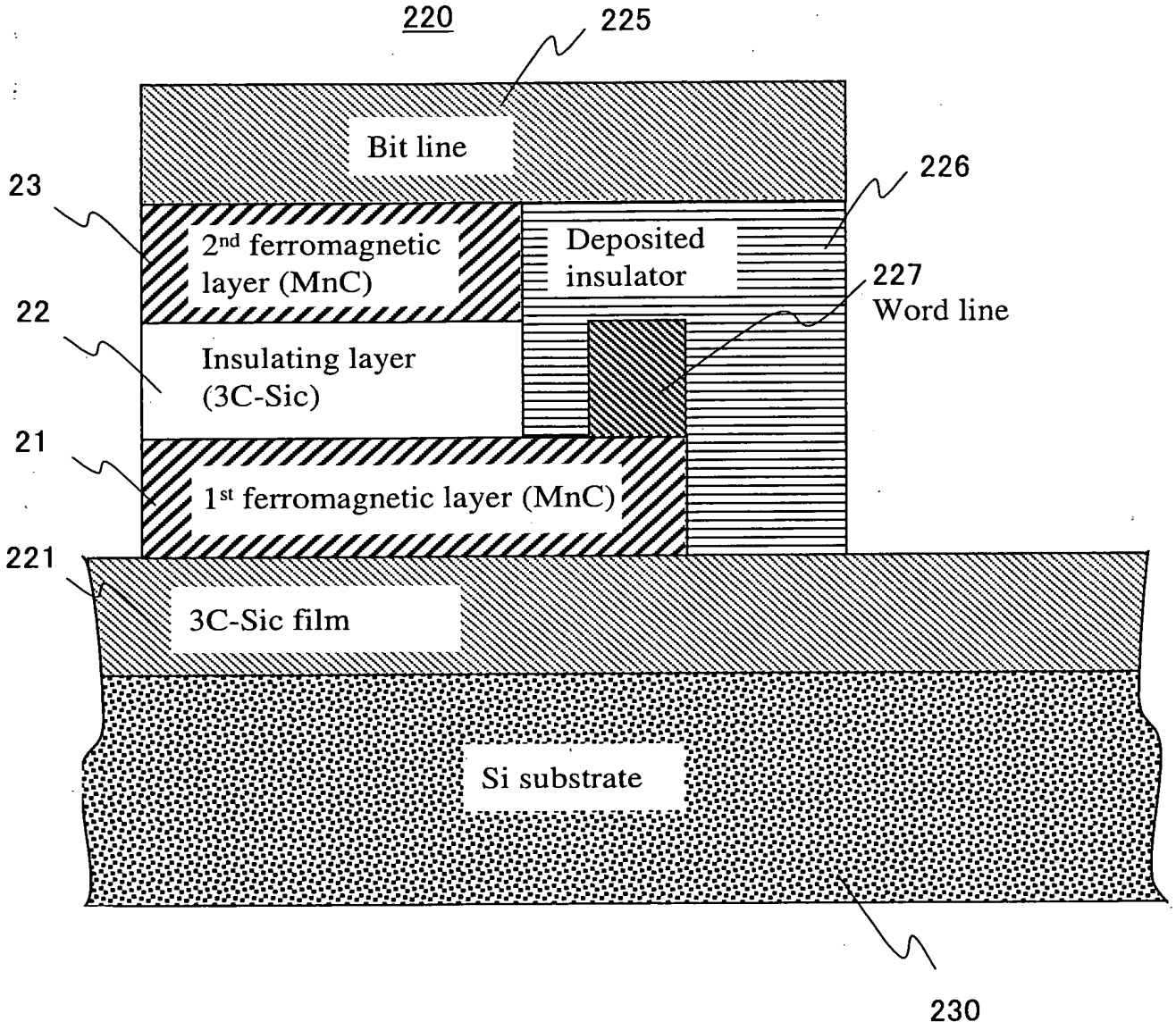
220
225
Bit line
23
226
2nd ferromagnetic layer (MnC)
Deposited insulator
227
Word line
22
Insulating layer (3C-Sic)
21
1st ferromagnetic layer (MnC)
221
3C-Sic film
Si substrate
230

Fig. 17

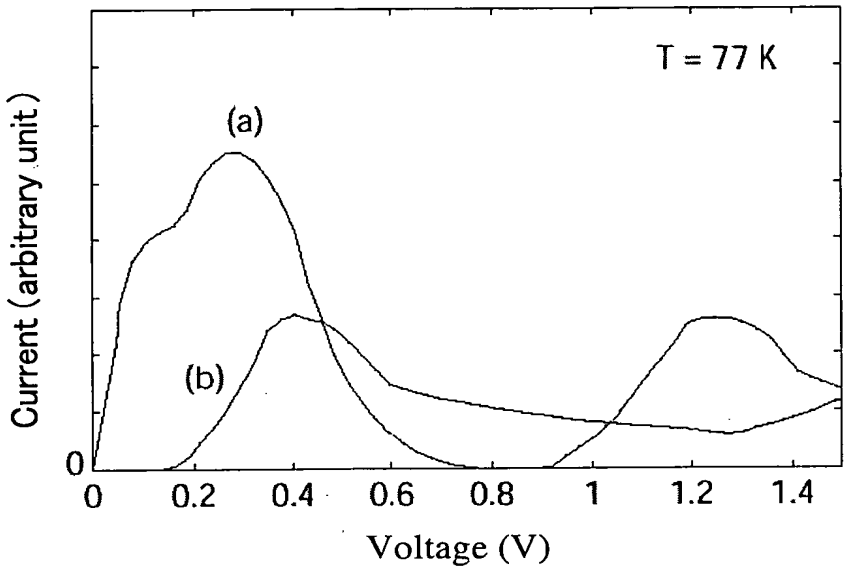

Fig. 18

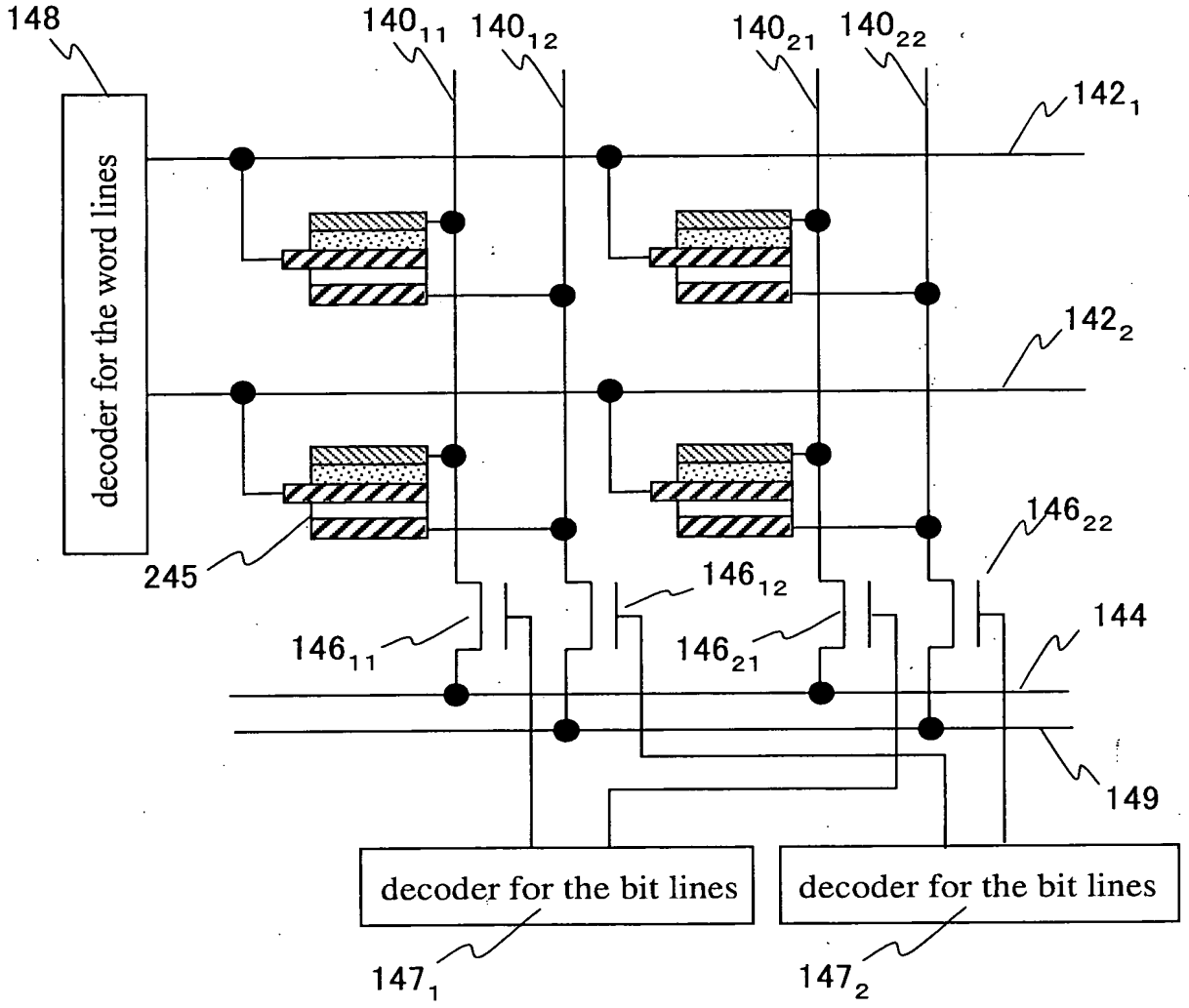
148
140_{11}
140_{12}
140_{21}
140_{22}
142_1
142_2
decoder for the word lines
245
146_{22}
146_{12}
146_{11}
146_{21}
144
149
decoder for the bit lines
decoder for the bit lines
147_1
147_2

Fig. 19

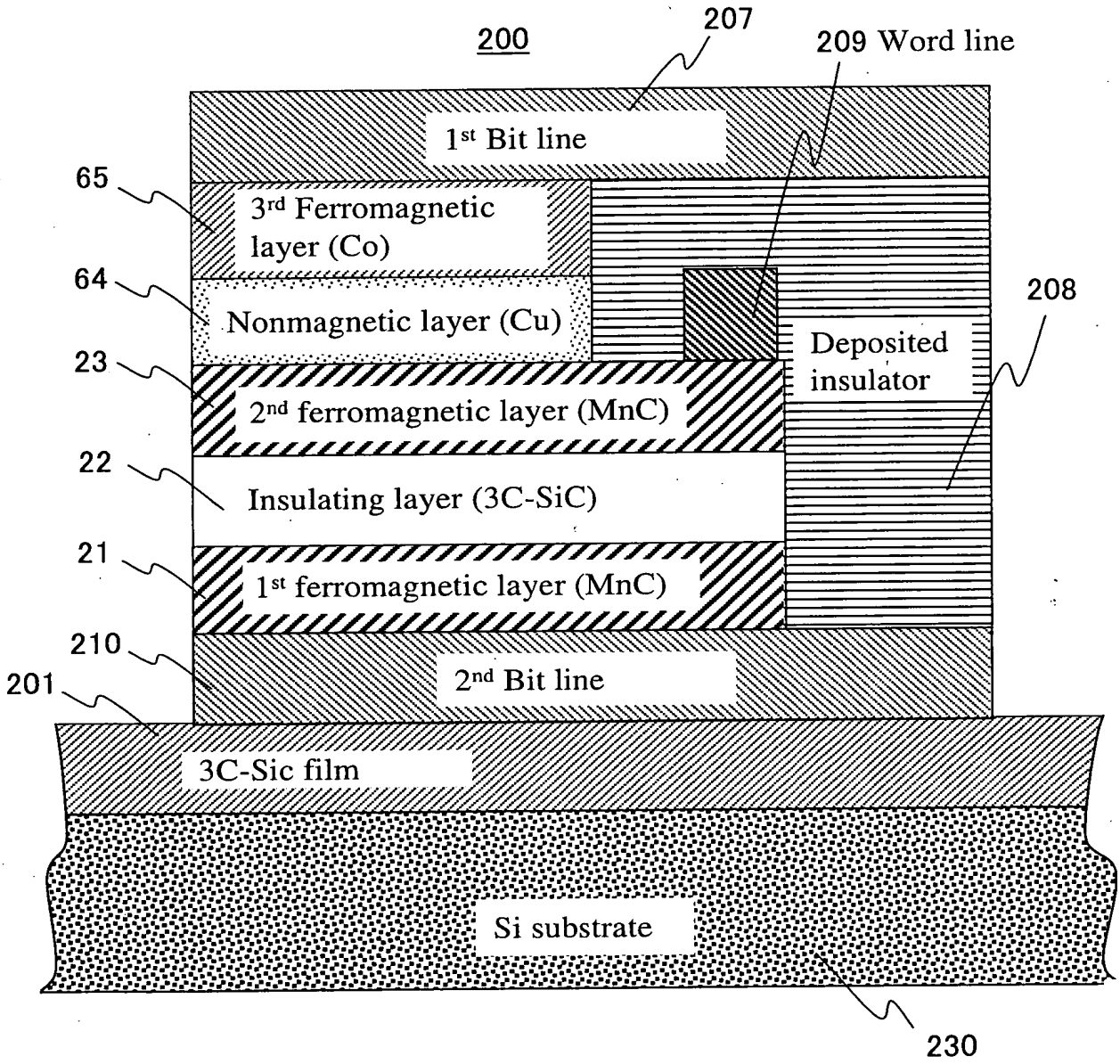
200
207
209 Word line
1st Bit line
65
3rd Ferromagnetic layer (Co)
64
Nonmagnetic layer (Cu)
208
Deposited insulator
23
2nd ferromagnetic layer (MnC)
22
Insulating layer (3C-SiC)
21
1st ferromagnetic layer (MnC)
210
2nd Bit line
201
3C-Sic film
Si substrate
230

Fig. 20

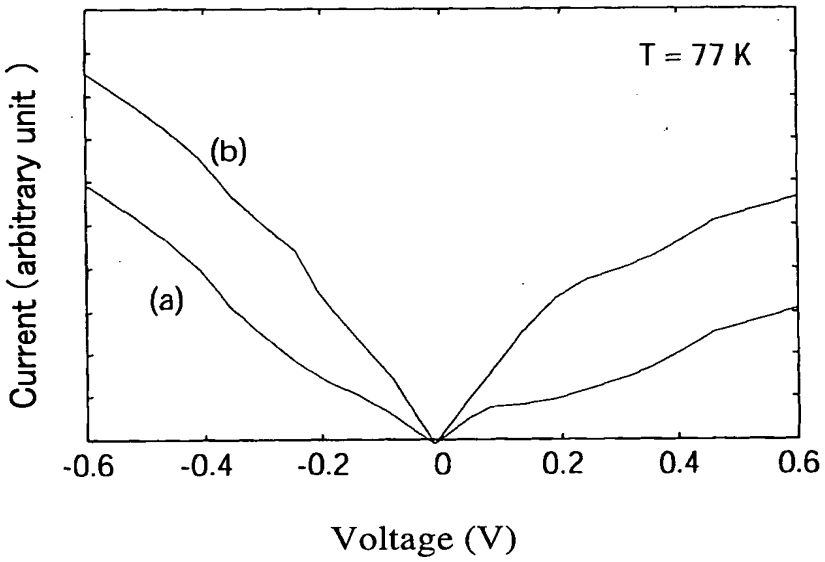
T = 77 K
(b)
(a)
Current (arbitrary unit)
-0.6
-0.4
-0.2
0
0.2
0.4
0.6
Voltage (V)

Fig. 21

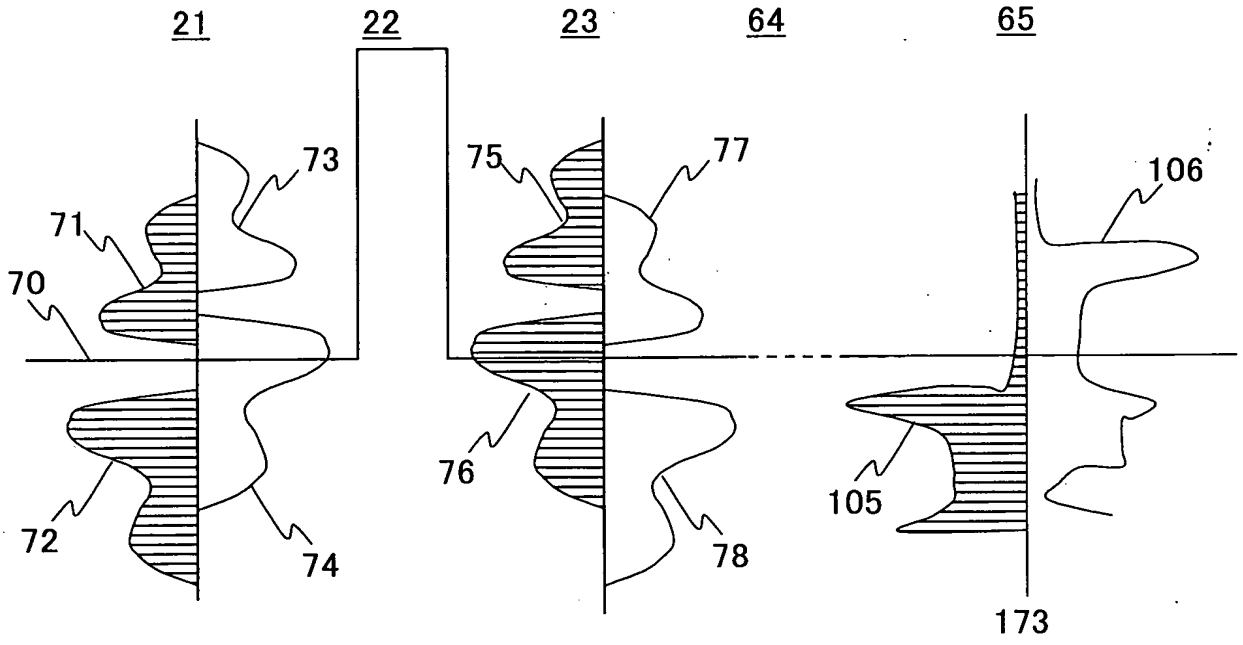
21
22
23
64
65
73
71
70
72
74
75
77
76
78
106
105
173

Fig. 22

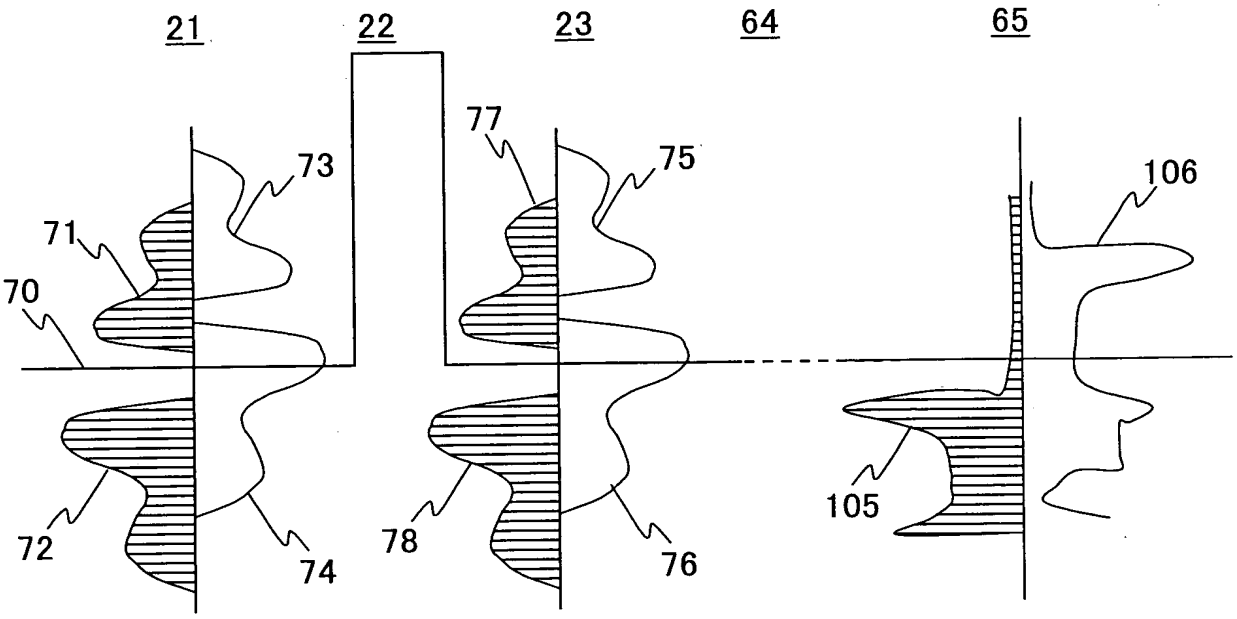
21
22
23
64
65
77
73
75
106
71
70
72
74
78
76
105

Fig. 23

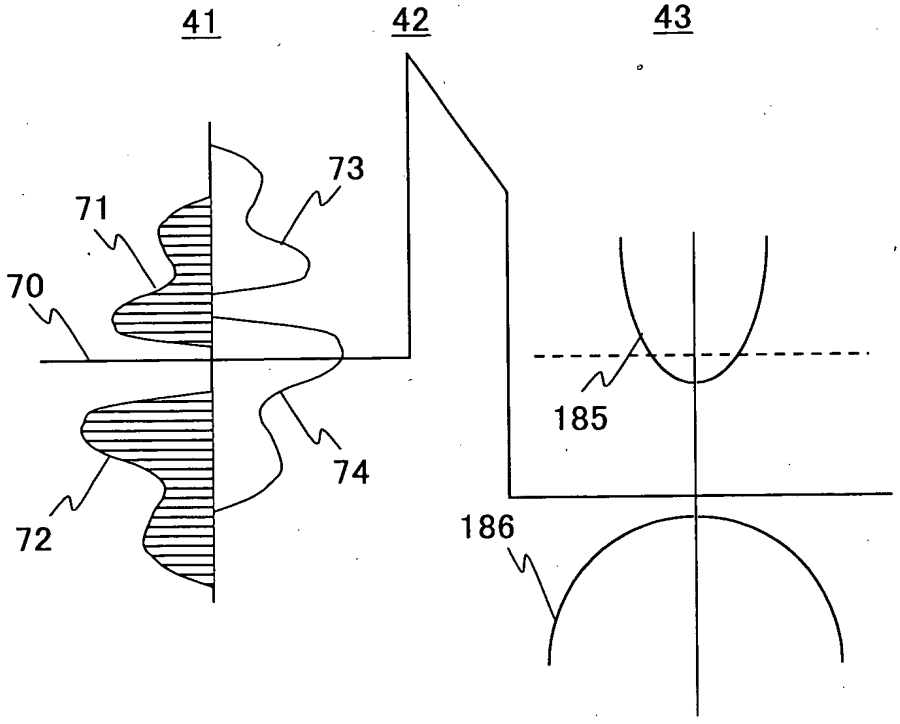
41
42
43
73
71
70
74
72
185
186

Fig. 24